

TNT™ 130

Operating Guide

INTRODUCTION AND GENERAL DESCRIPTION

Congratulations on your purchase of the Peavey TNT™ 130 bass amplification system. After reading this owner's manual you will have a better understanding of the operating principles of the system. A thorough understanding of these instructions will also help you to achieve many varied tonal settings.

The TNT™ 130 is a highly advanced, 130 watt bass system utilizing the latest active equalization circuitry, built-in variable crossover network, patching facilities, a tuned and ported enclosure and a very efficient 15" loudspeaker. (As an option, the TNT™ 130 is available with a premium Black Widow®/Super Structure™ transducer model #1502-4.) The TNT™ 130 also employs our patented DDT™ (Distortion Detection Technique) compression circuit (U.S. Patent #4,318,053) which automatically detects the onset of clipping (distortion) at the power amp. Not only does this novel circuit help prevent speaker damage/failure, it also aids in reproducing the ultra clean sounds for today's bass and keyboard styles.

As with any sophisticated piece of equipment, there are some operating principles concerning the input stage, gain controls, equalization and patching facilities which must be understood to obtain the best tonal results. Please read and understand this manual and keep it handy for future reference.

TNT™ 130 SPECIFICATIONS

POWER AMPLIFIER SECTION:

RATED POWER & LOAD:

130 W RMS into 4 ohms with DDT™ compression

POWER @ CLIPPING: (TYPICALLY)

(5% THD, 1 KHz, 120 VAC line)

85 W RMS into 8 ohms

140 W RMS into 4 ohms

2 ohms not recommended

FREQUENCY RESPONSE:

+0, -1 dB, 20 Hz to 20 KHz @ 100 W RMS into 4 ohms

TOTAL HARMONIC DISTORTION:

Less than 0.2%, 100 mW to 100 W RMS, 20 Hz to 10 KHz,
4 ohms, typically below 0.1%

DDT™ DYNAMIC RANGE:

Greater than 20 dB

DDT™ MAXIMUM THD:

Below 0.5% THD for 6 dB overload

Below 1% THD for 20 dB overload

HUM & NOISE:

Greater than 95 dB below rated power

POWER CONSUMPTION: (Domestic)

30 watts, 50/60 Hz, 120 VAC

PREAMP SECTION:

THE FOLLOWING SPECS ARE MEASURED @ 1 KHz
WITH THE CONTROLS PRESET AS FOLLOWS:

PRE GAIN PULL BRIGHT OFF (IN)

POST GAIN PULL PUNCH OFF (IN)

POST GAIN @ 10

LOW EQ @ +6 dB

MID EQ @ -6 dB

SHIFT @ 300 Hz

BANDWIDTH @ 12:00

HIGH @ +9 dB

PRESENCE @ 0 dB

NOMINAL LEVELS ARE WITH PRE GAIN @ 5

MINIMUM LEVELS ARE WITH PRE GAIN @ 10

PREAMP HIGH GAIN INPUT:

Impedance: High Z, 220K ohms

Nominal Input Level: -30 dBV, 30 mV RMS

Minimum Input Level: -46 dBV, 5 mV RMS

Maximum Input Level: +8 dBV, 2.5 V RMS

PREAMP LOW GAIN INPUT:

Impedance: High Z, 44K ohms

Nominal Input Level: -24 dBV, 60 mV RMS

Minimum Input Level: -40 dBV, 10 mV RMS

Maximum Input Level: +14 dBV, 5 V RMS

CROSSOVER HIGH OUTPUT:

Function: High pass out

Load Impedance: 1K ohms or greater

Nominal Output: 0 dBV, 1 V RMS

Maximum Output: +18 dBV, 8 V RMS

CROSSOVER LOW OUTPUT:

Function: Low pass out

Load Impedance: 1K ohms or greater

Nominal Output: 0 dBV, 1 V RMS

Maximum Output: +18 dBV, 8 V RMS

PREAMP OUTPUT:

Function: Full range out

Load Impedance: 1K ohms or greater

Nominal Output: 0 dBV, 1 V RMS

Maximum Output: +18 dBV, 8 V RMS

POWER AMP INPUT:

Impedance: High Z, 22K ohms

Designed Input Level: 0 dBV, 1 V RMS

(Switching jack providing preamp output to power amp
input connection when not used)

SYSTEM HUM & NOISE @ NOMINAL INPUT LEVEL:

(20 Hz to 20 KHz unweighted)

78 dB below rated power

EQUALIZATION:

Low & High: +15 dB @ 80 Hz & 3 KHz, shelving

Mid: +15 dB (with shift & bandwidth), peak/notch

Shift: 150 Hz to 1500 Hz

Bandwidth: 1/3 to 3 octaves

Presence: +15 dB (Special EQ)

Pull Bright: +6 dB @ 2 KHz

Pull Punch: Special EQ

CROSSOVER: (FOR BI-AMP APPLICATIONS)

Range: 50 Hz to 500 Hz

Slope: 12 dB/octave

WARNING

TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
BEFORE USING THIS APPLIANCE, READ BACK COVER FOR FURTHER WARNINGS.

THE FRONT PANEL

On/Off Switch

The on/off power switch is a two position rocker-type and should present no problem in operation. In the on position, a red LED indicator will illuminate showing that power is being supplied to the unit. **NOTE:** WHEN THE UNIT IS TURNED ON, THE DDT™ COMPRESSION LED MAY MOMENTARILY ILLUMINATE. ALTHOUGH WE RECOMMEND THAT THE GAIN CONTROLS (PRE AND POST GAIN) SHOULD BE AT THEIR ZERO POSITIONS **BEFORE** THE POWER SWITCH IS TURNED ON, THE OCCASIONALLY LIGHTING OF THE DDT™ LED IN THIS INSTANCE SHOULD BE CONSIDERED NORMAL.

Ground Switch

The ground switch is a 3-position rocker-type which, in most applications, should be operated in its center or zero position. You may encounter some situations where an audible hum and/or noise will come from the loudspeaker. If this situation arises, position the ground switch to either positive or negative or until the noise is eliminated. **NOTE:** SHOULD THE NOISE PROBLEM CONTINUE, CONSULT YOUR AUTHORIZED PEAVEY DEALER, THE PEAVEY FACTORY OR QUALIFIED SERVICE TECHNICIANS. **DO NOT, UNDER ANY CIRCUMSTANCE, REMOVE THE GROUND PIN ON THE MAINS (POWER) CABLE.** **NOTE:** The Ground Switch is **not** functional on export units.

DDT™ Compression

The TNT™ 130 utilizes our patented DDT™ (Distortion Detection Technique) compression circuit to effectively eliminate the possibility of distortion (square waves) from occurring within the power amp.

As mentioned in the On/Off Switch section, the DDT™ LED will sometimes illuminate when the unit is first turned on and this should be considered normal. The DDT™ LED will also occasionally illuminate to indicate that the DDT™ circuit is automatically engaging to prevent distortion. **NOTE:** IF THE DDT™ LED **REMAINS** CONSTANTLY LIT WHILE YOU ARE PLAYING, THIS IS AN INDICATION THAT THE GAIN (VOLUME) CONTROLS AND/OR EQUALIZATION CONTROLS ARE SET IN POSITIONS THAT ARE MAKING THE POWER AMP OVERWORK. ALTHOUGH THE DDT™, IN MOST CASES, WILL PREVENT SPEAKER DAMAGE AND/OR FAILURE WE RECOMMEND THAT THE GAIN/EQUALIZATION CONTROLS BE READJUSTED UNTIL THE DDT™ LED WILL ILLUMINATE PERIODICALLY.

Patch Section

The patch section consists of two jacks labeled preamp output and power amp input. Primarily the preamp output and power amp input jacks are used for patching effects devices and signal processing equipment. "in-line" with the TNT™ 130. Most devices such as flangers, chorus, tape/analog/digital delays or gain devices such as external compressors can be used within the effects loop. The preamp output level is approximately 1 volt RMS and is a relatively low impedance — 1000 ohms. To utilize this effects loop, use a high quality, **shielded** patch cord and plug one end into the preamp output and the other end into the external device input. To return the processed signal to the TNT™ 130, use a second high quality **shielded** patch cord and plug one end into the **external unit output** and the other end of the patch cord into the **power amp input**.

Since this method of using an effect places the device **after** the preamp/equalization and **before** the power amp you will have a greater degree of control over the sound quality of the device or signal processing unit.

The preamp output can also be used to send the signal of the instrument/preamp to mixing and recording consoles. For this method use a high quality, **shielded** patch cord and make the connection from the TNT™ 130's preamp output to the desired channel of the mixer or to an auxiliary device where the signal is **not to be returned to the power amp input**. With this method of sending your instrument signal or auxiliary device, you do **not** have to utilize the power amp input as the signal will automatically feed the power amp section.

The Crossover

The TNT™ 130 is equipped with a built-in **variable** crossover network which gives the bassist/keyboardist the basic tools to perform the bi-amp function. To achieve the bi-amp function, the musician must acquire one (1) additional power amp and one (1) additional loudspeaker and enclosure. For a perfect companion system we recommend our XC-400™ or M-3000™ power amps and the 118D™ low frequency enclosure. To utilize this recommended bi-amp system, use a short, high quality, **shielded** patch cord (1-3 feet in length) and make the connection **from** the high output of the crossover section to the power amp input of the TNT™ 130. Use a longer, high quality, **shielded** patch cord to make the connection **from** the low output of the crossover section to the external power amp input. Use a high quality, **unshielded** patch cord to make the connection **from** the external power amp's outputs to the low frequency enclosure.

We recommend that, for the optional equipment and bi-amp procedures mentioned above, the crossover point be established somewhere around 175 Hz to 300 Hz. This method now allows the TNT™ 130 to reproduce only those frequencies above the crossover point while the external power amp/enclosure will reproduce frequencies below the crossover point. **NOTE:** THIS IS ONLY **ONE** EXAMPLE OF THE BI-AMP OPERATION OF THE TNT™ 130. IF YOU ARE NOT FAMILIAR WITH THIS OR ANY OTHER BI-AMP TECHNIQUE, WE RECOMMEND THAT YOU CONSULT YOUR AUTHORIZED PEAVEY DEALER, THE PEAVEY FACTORY OR QUALIFIED TECHNICAL PERSONNEL TO OBTAIN OTHER PERTINENT INFORMATION ON YOUR BI-AMP SYSTEM.

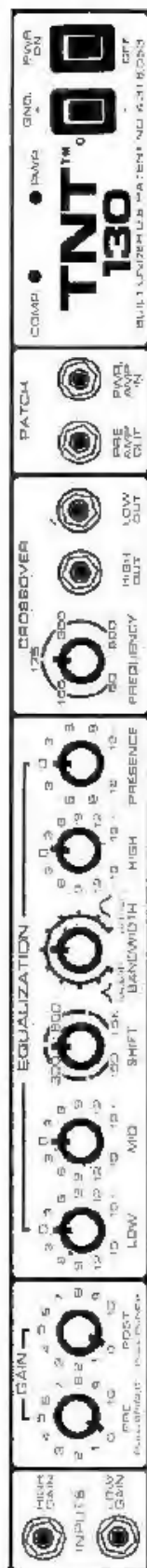
Equalization Section

The TNT™ 130's equalization section contains six individual controls for shaping and contouring the instrument signal. Please be aware that the TNT™ 130 employs active circuitry which allows you to have **accurate** cut and boost capability of highs (treble), lows (bass) and the vital middle frequencies. Because these controls are active, the low, mid, high and presence controls can reproduce the "natural" sound of the instrument without undue coloration by simply placing them at their 12 o'clock or zero positions. Rotating these controls to their center positions is actually an excellent place to start when you begin to search for new tonalities and sounds. **NOTE:** WHEN THE LOW, MIDDLE, HIGH AND PRESENCE CONTROLS ARE PLACED AT THEIR 12 O'CLOCK OR ZERO POSITIONS, THERE WILL BE CORRESPONDINGLY LITTLE EFFECT ON THE INSTRUMENT'S SIGNAL AND THE CONTROLS LABELED SHIFT AND BANDWIDTH WILL HAVE NO EFFECT BECAUSE THE MIDDLE HAS BEEN SET "FLAT".

The Presence Control

The presence control should be used to adjust the extreme high end (treble) of the bass guitar or keyboard signal. For less high end response rotate the presence control counterclockwise (0 to -12 dB) until achieving





the desired high end **rolloff**. To **boost** high end response of the preamp, rotate the control clockwise (0 to +12 dB). The boost portions of this control are very effective for adding an edge to contemporary "neck slapping" and "string popping" techniques employed by bassists or for accentuating the high end of electronic keyboards. (See tone-setting charts for further examples.)

The High Control

The high control is similar in operation to the presence control but is placed at a lower frequency point. As with the presence control, less high end response is obtained through counterclockwise rotation (0 to -15 dB) while increased treble response occurs in the ranges from 0 to +15 dB. (See the tone setting charts for further examples.)

The Mid, Shift and Bandwidth Controls (Parametric Equalizer)

The mid, shift and bandwidth controls together determine the tonal response of the **vital** mid-band region. We choose to use the word **vital** to describe the mid frequencies because proper use of this frequency region **can** and **does** make the difference between a good sound and a **great** one. Thorough experimentation with these controls will rapidly demonstrate the versatility and effectiveness they will have on your overall sound.

The mid control is the element which will determine **how much** of the mid frequency range will be added (boost) or subtracted (cut). As with the other active controls, boost of the mids is obtained from 0 through +15 dB while cut is available from 0 through -15 dB.

The shift control allows the musician to determine **where** the cut and boost of the mid control will operate. The shift controls allow total control of the entire mid-band region from the low mids (150 Hz) to the upper mids (1.5 kHz).

To further adjust the mid-band region, the bandwidth control can be used to create a peak sound in the mids by gradually rotating the control counterclockwise to the **sharp** position. By rotating the bandwidth control clockwise (broad) the mids begin to gradually sound warmer and fatter as they are spread across a wider portion of the mid-band spectrum.

To get a better idea of how the mid, shift and bandwidth controls operate, do the following experiment:

1. Plug the instrument into the high or low gain jacks.
2. Rotate the pre gain control to #2 or #3 (Pull Bright switch in).
3. Rotate the post gain control between #5 and #8 (Pull Punch in).
4. Place the low and high equalization controls at 0 (zero).
5. Place the mid control somewhere above (+) its zero position.
6. Play the open first (G) string on the bass (or strike a note somewhere in the middle of the keyboard) and allow it to sustain.
7. As the note sustains, manually sweep the shift and bandwidth controls.

Note the wide differences in tonality which can be achieved with these 3 controls. Again, after you spend time with these three important controls you will develop understanding of their operation.

The Low Control

The low control determines the low end (bass) response of the TNT 130. The low control is active and is capable of adding or subtracting the desired amount of low end. Boost is obtained from 0 to +15 dB and cut is available from 0 to -15 dB. **NOTE: ALTHOUGH THE LOW CONTROL SHOULD PRESENT NO PROBLEM IN OPERATION, IT SHOULD BE NOTED THAT OVERBOOSTING OF THE LOW CONTROL MAY CAUSE THE TNT 130's DDT™ COMPRESSION LED TO ACTIVATE PREMATURELY—EVEN AT LOW VOLUME LEVELS. USUALLY, THIS OCCURRENCE CAN BE CORRECTED BY CUTTING THE AMOUNT OF LOWS UNTIL THE DDT™ LED ACTIVATES PERIODICALLY.**

The Gain Section

Post Gain Control

In normal use, the post gain control should be operated above the 12 o'clock or #5 position. To obtain maximum power, rotate the control fully clockwise to #10. **NOTE: WITH THE POST GAIN CONTROL AT ITS #10 POSITION, THE PRE GAIN CONTROL SHOULD NOT BE OPERATED ABOVE ITS 12 O'CLOCK OR #5 POSITION TO AVOID UNWANTED DISTORTION. WHILE UTILIZING MAXIMUM POWER AND EXTREME HIGH END BOOST IN THE EQ SECTION, YOU MAY FIND IT NECESSARY TO BACK DOWN (CUT) THE POST GAIN CONTROL TO APPROXIMATELY ITS #3 POSITION TO AVOID ANY UNWANTED RESIDUAL NOISE**

The post gain control utilizes an integral pull switch called "**punch**". When activated, punch adds a 6 dB boost at 120 Hz and adds **dramatically** and effectively to the low end response and projection capabilities of the TNT 130.

Pre Gain Control

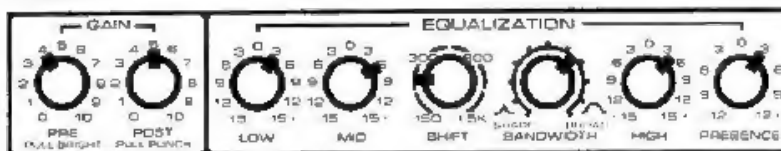
The pre gain control is the first volume control of the system. If the **post gain** control is set to its full #10 position for maximum power reserve, the pre gain control should be positioned somewhere in the middle of its range or lower. Placing the pre gain control higher than #5 may cause unwanted square waves (distortion) and result in premature clipping and/or activation of the DDT™ compression circuitry. The pre gain control also employs a pull bright switch which adds approximately 1 dB of boost to the high end. Like the high and presence controls explained in the Equalization Section paragraph, the pull bright switch can be used to enhance many modern bass playing techniques.

The Inputs

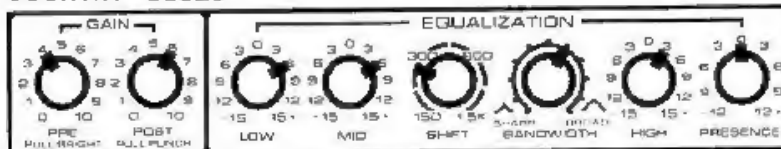
The TNT 130 has two inputs labeled high gain and low gain. The high gain input is the input which should normally be used and will deliver the highest signal level from the input to the preamp. Sometimes, however, bass guitars that are equipped with very high output "hot" pickups will overload the high gain input. This will be apparent because you will hear some unwanted distortion at the loudspeaker or frequent illuminating of the DDT™ compression light. If this distorted sound does occur, plug your instrument into the low gain input which has less gain (-11 dB) than the high gain input. When two instruments or signal sources are plugged into both inputs, the low gain input is automatically switched to the same level as the high gain input. **NOTE: WHEN USING TWO INSTRUMENTS OR SIGNAL SOURCES, WE STRONGLY RECOMMEND THAT THE VOLUME CONTROLS BE SET AT A REASONABLY LOW VOLUME LEVEL TO REDUCE THE POSSIBILITY OF UNDUE DISTORTION AND/OR SPEAKER DAMAGE.**

TONE SETTINGS

ROCK

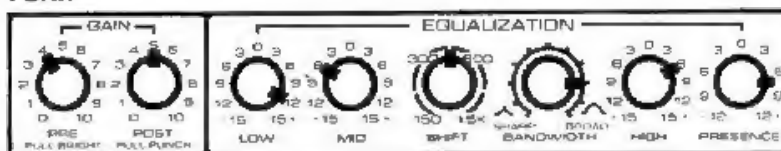


COUNTRY-BLUES



ACTIVATE
PULL BRIGHT AND PULL PUNCH

FUNK



ACTIVATE
PULL BRIGHT

NOTE:

THE ABOVE TONE CHARTS ARE MEANT ONLY AS A GENERAL GUIDE AND ARE PROVIDED TO FAMILIARIZE THE PLAYER WITH THE FUNCTIONS AND CONTROLS OF THE TNT™ 130. ADJUSTMENTS TO THESE CONTROLS WILL BE NECESSARY DUE TO VARYING TYPES OF INSTRUMENTS, PICKUPS AND ACCESSORIES UTILIZED ALONG WITH YOUR STYLE OF MUSIC AND PLAYING TECHNIQUES. BE SURE TO READ ALL OF THIS OPERATING GUIDE TO UNDERSTAND FULLY ALL OF THE CONTROLS AND THEIR FUNCTIONS.

DANGER

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME. THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS

SOUND LEVEL dBA, SLOW RESPONSE

8
6
4
3
2
1 1/2
1
1/2
3/4
1/2
1/4 or less

90
82
95
97
90
92
95
110
115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LEVELS COULD RESULT IN SOME HEARING LOSS.

EAR PLUGS OR EARPLUGS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURES IN EXCESS OF THE LIMITS SPECIFIED ABOVE. TO PROTECT AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

CAUTION

THIS AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC WHICH MAY REQUIRE OCCASIONAL PEAK POWER. TO HANDLE OCCASIONAL PEAK POWER, ADEQUATE POWER "HEADROOM" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVEL IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE ASSOCIATED SPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN CONTROLS OF THE INPUT SIGNAL IS SMALL.

- Read all safety and operating instructions before using this product.
- All safety and operating instructions should be retained for future reference.
- Obey all cautions in the operating instructions and on the back of the unit.
- All operating instructions should be followed.
- This product should not be used near water, i.e. a bathtub, tank, swimming pool, wet basement, etc.
- This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
- This product should not be placed near a source of heat such as a stove, heater, radiator or another heat producing appliance.
- Never break off the ground pin on the power supply cord. For more information on grounding write for our free booklet "Shock Hazards and Grounding".
- Power supply cords should always be handled carefully. Never walk on or place equipment on power supply cords. Periodically check cords for cuts or signs of abuse, especially at the plug and the point where the cord exits the unit.
- The power supply cord should be unplugged when the unit is to be unused for long periods of time.
- Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag, or an ammonia based household cleaner if necessary.
- Do not use a vacuum cleaner on the unit. Do not let liquids or other debris get into the unit through the ventilation holes or any other openings.
- This unit should be checked by a qualified service technician if:
 - The power supply cord or plug has been damaged.
 - Anything has fallen or been spilled into the unit.
 - The unit does not operate correctly.
 - The unit has been dropped or the enclosure damaged.
- The user should not attempt to service the equipment. All service work should be done by a qualified service technician.



PEAVEY ELECTRONICS CORPORATION

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Due to our efforts for constant improvement, features and specifications are subject to change without notice.

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